RESEARCH PROBLEM STATEMENT #DC-509

I – Problem Title
Design-Build (RD-03)

II – Research Problem Statement
Examine the pros and cons of Design-Build for transportation projects in California. Evaluate barriers to implementation and determine best practices. Develop evaluation criteria for project selection.

As an added tool in the tool box to meet its "Delivery" Goal, Caltrans is pursuing the use of Design-Build. The results of this research effort will aid in the development of procedures for acquiring and administering Design-Build services. The following tasks will be performed and the results included in a final report:
* . Review existing Caltrans policies and procedures.
* . Review industry practices related to Design-Build and provide a synthesis of these practices.
* . Develop recommendations for and report on a Design-Build contractor selection process.
* . Recommend criteria to be used in deciding which projects should be delivered with Design-Build.
* . Recommend administrative, design, and construction procedures, including oversight for quality assurance.
* . Based on data from other State DOTs, provide estimates of potential time savings and cost savings from utilizing the Design-Build process versus the Design-Bid-Build process.

III – Objective
This research has the potential to provide a tool to the Department in meeting its goal for Delivery. Design-Build is an innovative procurement method that has provided other entities with a cost-effective and efficient way to deliver projects. This method could help deliver record amounts of projects by speeding delivery and lowering costs. This research will provide recommendations as to the viability of Design-Build as a tool.

IV – Background
The Department is required by law to design highway projects, put the project out to bid and award a construction contract to the lowest responsible bidder. This system is known as Design-Bid-Build. The Design-Build process allows the Department to select an entity to complete both design and construction under a single contract. (A brief background statement or description.)

The potential advantages of the Design-Build model include the following:
* Faster delivery because design and construction are assigned to a single entity allowing for some construction to begin before design is complete
* Reduction of administrative and inspection costs
* Single contact and accountability for quality, cost, and schedule

* Allows for maximum flexibility and innovation in design, materials and construction methods
* Reduction or elimination of change orders and claims due to errors and omissions
* May include a warranty

V – Statement of Urgency and Benefits

It is possible that legislation will be adopted to allow the Department of Transportation to use Design-Build in delivering project. Several bills were considered during the past legislative session and the California Performance Review specifically named Design-Build as delivery method that should be considered. Use of Design-Build is spreading throughout the States with encouraging results.

VI – Related Research

FHWA, AASHTO, and numerous States have begun to study the implementation of Design-Build. There is an abundance of literature on Design-Build in general and Design-Build as it relates to individual States.

VII - Deployment Potential

It is very likely that the Department will be required to deploy the Design-Build method of contracting. This research is an opportunity to be proactive in developing guidance prior to approval of legislation. The Division of Design has been selected as the lead for this issue.